Supplemental FTP Requirement

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MOBILE6 Workshop

June 29, 1999

Documentation

- Proposal not drafted
- Proposed methodology outlined in Tier 2 documentation:
  - → Koupal, "Development of Light-Duty Emission Inventory Estimates in the Notice of Proposed Rulemaking for Tier 2 and Sulfur Standards", March 1999 (Appendix C)

The SFTP Requirement

- Reduces Off-Cycle Emissions
  - → Aggressive Driving (US06)
  - → Air Conditioning (SC03)

- EPA and ARB use same test procedures, different standards
  - → EPA standards apply to Tier 1
  - → ARB standards apply to LEVs (including NLEVs)

Federal Phase-In Schedule Under NLEV

Model Year	LDV/T1/T2	LDT3/4
Standards:	*ARB*	*EPA*
2001	25%	-
2002	50%	40%
2003	75%	80%
2004	100%	100%

Tier 1 SFTP Benefits

- EPA rule estimated benefits of Tier 1 SFTP standards, in terms of percent reduction of uncontrolled "excess" emissions:

Pollutant	Off-Cycle	AC
HC	88%	-
CO	72%	-
NOx	78%	50%

Tier 1 SFTP Proposal

- Reduce uncontrolled off-cycle and air conditioning effects by applicable percentages

- Air Conditioning HC/CO:
  - → Account for CO increase due to A/C loading, based on fuel consumption (roughly 20%); assume no additional enrichment
  - → HC benefit = 100%

- Applies only to LDT3/4s under NLEV

LEV SFTP Benefits

- Need to generate percent reductions which can be applied to uncontrolled off-cycle and A/C effects on LEVs.

- Requires comparison of relative stringency of ARB standards for LEVs vs. EPA standards for Tier 1s.

Determination of LEV SFTP Stringency

- ARB standards apply at 4,000 miles, EPA standards apply at useful life
- ARB SFTP standards projected to 50K using proposed MOBILE6 LEV emission rates
- "Running FTP" standards calculated for LEV and Tier 1 at 50K

Determination of LEV SFTP Stringency, cont.

- "SFTP stringency" = SFTP / Running FTP; compared between LEV and Tier 1
- LEV benefits derived by adjusting Tier 1 benefits according to "SFTP stringency"

LEV Off-Cycle Benefits

	LDV/T1	LDT2	LDT3	LDT4
HC	98%	99%	93%	91%
CO	79%	78%	78%	79%
NOx	97%	98%	87%	84%

LEV A/C Benefits

	LDV/T1	LDT2	LDT3	LDT4
HC	100%	100%	100%	100%
CO	-	-	-	-
NOx	79%	93%	90%	90%

LEV SFTP Proposal

- Reduce uncontrolled off-cycle and air conditioning effects by applicable percentages

- Air Conditioning HC/CO:
  - → Account for CO increase due to A/C loading, based on fuel consumption (roughly 20%); assume no additional enrichment
  - → HC benefit = 100%

- Applies only to LDV/LDT1/LDT2 under NLEV